



**The Cultivation of Cotton by Pueblo Indians of New Mexico**

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*Science*, New Series, Vol. 94, No. 2433 (Aug. 15, 1941), 162.

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Thu Jul 15 18:03:46 2004

R. S. HUDSON, British Minister of Agriculture, has announced the appointment of an Agricultural Improvement Council for England and Wales, to devise methods for seeing that promising results of research are brought as rapidly as possible into ordinary farming practice. The council will advise from time to time on agricultural problems that seem to need scientific investigation. It will consist of a chairman and twelve members, appointed for three years with the possibility of reappointment, and will include practical farmers as well as distinguished men of science.

THE Universities Bureau of the British Empire has

announced the selection for the Rockefeller Foundation of medical studentships for the present year. These studentships have been awarded as the result of a grant by the Rockefeller Foundation of \$100,000 to aid the training in their clinical years of British medical students at a time when they may be deprived of the usual facilities. The amount of each studentship will cover the cost of tuition and living for two or three years. Between 90 and 100 applications were received and nearly two thirds of the candidates were interviewed. The 26 students selected are being sent to 19 universities in the United States and Canada.

## DISCUSSION

### THE CULTIVATION OF COTTON BY PUEBLO INDIANS OF NEW MEXICO

COTTON was cultivated by many of the Indian pueblos of the Rio Grande valley before the days of Coronado (1540).<sup>1</sup> It was used in the manufacture of textiles and also for ceremonial purposes. But the cultivation of cotton, except for ritual use (twine for prayersticks; to be placed unspun on the top of dance masks, etc.) has long since been discontinued. Early reports of the U. S. Indian agents do not mention the cultivation of cotton at all.

Very little is known about the botanical nature of the cotton cultivated by the Rio Grande pueblos. F. L. Lewton speaks of a specimen received from Mrs. Mathilda C. Stevenson, Española, N. M., which, he says, appears to be *Gossypium hopi*.<sup>2</sup> Where and when the specimen was collected and where it was deposited, if preserved, are not known. Dr. Elsie Clews Parsons reports that cotton is still cultivated at Jemez<sup>3</sup> and at Isleta,<sup>4</sup> but so far no report on identification of specimens from these pueblos has appeared.

In August, 1934, the writer collected a specimen of cotton from a garden at Ranchitos, the farming community of the Santa Ana Pueblo Indians which is located on the east bank of the Rio Grande just north of Bernalillo. Mr. Volney H. Jones, ethnobotanist in the Museum of Anthropology, University of Michigan, identified it tentatively as *Gossypium hopi* Lewton. The specimen has been deposited in the collections in Mr. Jones's custody (Catalog No. 14695). Late in the summer of 1936, Mr. Jones saw cotton under cultiva-

<sup>1</sup> See V. H. Jones's exhaustive "A Summary of Data on Aboriginal Cotton of the Southwest" in "Symposium on Prehistoric Agriculture" (*The University of New Mexico Bulletin*, 1936).

<sup>2</sup> "The Cotton of the Hopi Indians: a New Species of *Gossypium*" (Smithsonian Miscellaneous Collections, Vol. 60, No. 6; 1912).

<sup>3</sup> "The Pueblo of Jemez," p. 14, 1925.

<sup>4</sup> "Isleta, New Mexico," p. 211, 1932.

tion at Ranchitos and collected seeds. These seeds, together with those collected by the writer, were sent to the U. S. Department of Agriculture Field Station at Sacaton, Arizona, where plants from them have been grown annually since 1936.

R. H. Peebles, of the Field Station, who has examined these plants, reports, in correspondence, that this cotton, while quite variable, is similar to *G. hopi* in several taxonomically important respects. It is adapted to early flowering and fruiting, as is Hopi cotton. On the other hand, he notes that in certain characteristics the Santa Ana cotton diverges from *G. hopi*, and suggests affinity to Upland cotton (*G. hirsutum*). His conclusion is, however, that the "Santa Ana material is more closely related to *Gossypium hopi* Lewton than to *G. hirsutum* L."<sup>5</sup>

The following conclusions seem warranted: (1) The Santa Ana cotton and Hopi cotton have a common origin, that the cotton cultivated at Santa Ana to-day is a relic of aboriginal agriculture rather than a recent introduction from the cotton growing states of the Gulf coast region. (2) The minor differences in the morphology of these two (Hopi and Santa Ana) cottons are explainable in terms of differences in environment and, perhaps, differences in manner of cultivation (irrigation). (3) With regard to diffusion, the direction seems to have been from the Hopi country to the Rio Grande; rather than the reverse, since both cottons are adapted to a very short growing season and because the growing season at Santa Ana (196 days) is considerably longer than in the Hopi country (135 days). Our Santa Ana specimen is the only authentic and completely documented identification of cultivated cotton from an Indian pueblo in the Rio Grande region that has yet been reported, so far as we know.

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<sup>5</sup> I am greatly indebted to Mr. Peebles and to Mr. Jones for their kindness and cooperation in this matter.